IN THE SPECIFICATION:

Please replace paragraph **[0029]** with the following paragraph showing changes to Equation 3.

[0029] The five basic matrix equations are:

1) State prediction update:

$$X(k+1 / k) = \Phi(k+1,k)X(k/k) + \Psi(k+1,k)U(k)$$

2) Covariance prediction update:

$$P(k+1 / k) = \Phi (k+1,k)P(k / k) \Phi^T(k+1,k) + Q^*(k+1)$$

With $Q^*(k+1) = \Gamma(k+1,k)Qd(k) \Phi^T(k+1,k)$

3) Gain computation:

$$K(k+1) = P(k+1 / k)H^T(k+1) [H(k+1)P(k+1 / k)H^T \mathcal{F}(k+1) + R(k+1)]^{-1}$$

4) Estimation update:

$$X(k+1 / k+1) = [I - K(k+1)H(k+1)] X(k+1 / k) + K(k+1)Z(k+1)$$

5) Covariance update:

$$P(k+1 / k+1) = [I - K(k+1)H(k+1)]P(k+1 / k)$$

These five equations correspond to a state-space representation of the propagation of state X and process of measurement Z, including noise, given by:

$$X(k+1) = \Phi(k+1,k)X(k) + \Gamma(k+1,k) Wd(k) + \Psi(k+1,k)U(k); \text{ and}$$

$$Z(k+1) + H(k+1)X(k+1) + V(k+1).$$